

**BONNEVILLE POWER ADMINISTRATION**  
**FISH AND WILDLIFE IMPLEMENTATION PLAN**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT**

***SUMMARY***

*Bonneville Power Administration (BPA) needs a comprehensive and consistent policy to guide its implementation and funding of fish and wildlife mitigation and recovery efforts.*

## **S.1 INTRODUCTION**

### **S.1.1 The Region**

The Pacific Northwest has long prided itself on its bountiful and diverse natural resources—its forests and grasslands, minerals and rivers, fish and wildlife. The Region has also relied on these natural resources to serve multiple, and sometimes conflicting, uses. The independent demands of the whole spectrum of human uses (such as irrigation, municipal water supplies, grazing, fishing and hunting, electric power production, recreation, timber harvest, and transportation) have placed increasing stress on the natural resources of the Columbia River Basin. One consequence is that, over the last decade, the number of fish and wildlife species listed as endangered or threatened under the Endangered Species Act (ESA) has dramatically increased.

The Region has sought to stem and even reverse the species decline. Unfortunately, after a decade of good intentions, there has been less progress than is necessary to reverse this trend. Here are the most important reasons:

- (1) Different groups have different value judgments about priorities, leading to different (and often conflicting) ideas about what recovery and mitigation efforts should be.**
- (2) There is no clear and agreed-upon scientific answer to the problem.**
- (3) Conflicting directives and jurisdictions of regional authorities have meant that funds dedicated to fish and wildlife mitigation and recovery efforts have often been used less efficiently and effectively than they otherwise could have been.**

Recently, regional entities have taken steps to work together to develop a comprehensive and coordinated planning approach for species recovery and mitigation. For example, over the past several years the Council's Columbia River Basin Fish and Wildlife Program, the Recommendations for the Protection and Restoration of Fish In The Columbia River Basin by the Governors of the four Northwestern States, and the Federal

Caucus' Conservation of Columbia Basin Fish: Final Basinwide Salmon Recovery Strategy (Basinwide Strategy; formerly referred to as the "All H paper") have all emphasized the importance of coordinated planning. Although science cannot yet point out a clear and agreed-upon path, the Region is working toward a unified planning approach to mitigation and recovery of fish and wildlife populations. BPA recognizes it must be prepared to fund the implementation of the ratepayers' share of the regional fish and wildlife mitigation and recovery efforts.

There are two basic ways to define a regional policy for fish and wildlife mitigation and recovery:

- Define the Policy first—develop with a policy and define the actions to carry it out.
- Define the Actions first—develop a set plan of actions, then sum up the actions to arrive at a policy.

BPA must be prepared to respond effectively and efficiently whether a policy-first or an actions-first policy emerges.

### **S.1.2 Bonneville Power Administration**

BPA, a power marketing agency of the United States Department of Energy (DOE), supplies roughly half of the electricity used in the Pacific Northwest. The power BPA markets comes primarily from 31 Federal hydroelectric projects (known collectively as the Federal Columbia River Power System, or FCRPS), and one non-federal nuclear plant. BPA is a co-manager of the Federal hydroelectric projects, but it does not own or operate them. Such responsibilities belong to the U.S. Army Corps of Engineers (Corps) and the U.S. Bureau of Reclamation (Bureau). BPA does own and operate about three-quarters of the Region's high-voltage electric transmission grid. BPA also promotes conservation and purchases power from several privately-owned renewable energy projects.

BPA's fish and wildlife responsibilities are derived from several sources, including, but not limited to, the following:

- The Pacific Northwest Electric Power Planning and Conservation Act of 1980 ("Regional Act");
- BPA's share of the trust responsibility derived from the historical relationship between the Federal government and the tribes, as expressed in treaties, statutes, Executive Orders, and Federal Indian case law; and
- BPA's 1996 Tribal Policy<sup>1</sup>.

*This EIS uses the phrase "mitigation and recovery" as shorthand for BPA's obligations to fish and wildlife under these and other laws.*

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<sup>1</sup> USDOE/BPA 1996b.

Since the passage of the Regional Act, BPA has incurred costs over \$6 billion for its fish and wildlife obligations. In addition, hydrosystem operation requirements for salmon recovery efforts have reduced the agency's effective power generation capability in the Region by about 1,000 megawatts since 1995, impacting BPA's revenues and replacement power costs.<sup>2</sup> As the agency that, on behalf of the FCRPS, currently funds a large share of the fish and wildlife mitigation and recovery efforts, BPA believes that a comprehensive and consistent policy would foster greater coordination and efficiency in fish and wildlife activities in the Region.

## **S.2 THE FISH AND WILDLIFE IMPLEMENTATION PLAN FINAL ENVIRONMENTAL IMPACT STATEMENT**

BPA has prepared this EIS to examine the potential environmental consequences of following different Policy Direction alternatives to implement and fund fish and wildlife mitigation and recovery efforts in the Pacific Northwest. As discussed in BPA's Business Plan Final EIS, there are three broad dimensions of fish and wildlife administration that need to be considered in defining and illustrating BPA's potential directions:

- 1) the relationship between BPA's responsibility to implement its mandated fish and wildlife responsibilities, and its accountability for results;
- 2) the ability to predict and stabilize its fish and wildlife costs; and
- 3) the administrative mechanisms for distributing the fish and wildlife dollars.<sup>3</sup>

All three of these issues have given rise to BPA's need to move forward with a clear Policy Direction for its implementation and funding of fish and wildlife mitigation and recovery. BPA is preparing this EIS now because (1) many species of fish and wildlife are already declining (further delay must be minimized), and (2) BPA wants to be ready to respond promptly when the regional Policy Direction(s) require change.

***Policy Direction:*** *the overarching theme that guides and shapes the decisions made by governments, agencies, or other public bodies regarding fish and wildlife mitigation and recovery efforts, applied through a series of actions that form an implementing plan.*

***Note*** *that as BPA selects a Policy Direction, any such Policy Direction will be shaped by existing laws, regional processes, and other mandates that BPA must follow. These laws and mandates may change at any time in the future, as public opinion and priorities change, which could lead to corresponding modifications to any Policy Direction BPA may have chosen.*

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<sup>2</sup> See Section 2.3.2.3, Managing the Money Resource, in Chapter 2 for details.

<sup>3</sup> USDOE/BPA 1995a, Section 2.4.5.

More specifically, this EIS is designed to:

- (1) **evaluate the range of reasonable Policy Directions** and the potential implementing and funding actions associated with such Policy Directions that the Region could decide to take for fish and wildlife mitigation and recovery;
- (2) **determine the environmental consequences** of BPA's implementation and funding of the actions that could emerge from the Policy Directions;
- (3) **show how the specific Policy Direction is identified** at any given time by using a unified planning approach. The Region's governing bodies together may identify a Policy Direction, or a default policy may be identified by taking guidance from the independent actions planned and taken by the many involved parties attempting to recover fish and wildlife populations in the Region; and
- (4) **facilitate short- and long-term decisionmaking** by the BPA Administrator or other parties who may use the information contained in the EIS.

It is important to understand what BPA is *not* doing in this EIS:

- **BPA is not unilaterally creating new Policy Direction alternatives.** The alternative Policy Directions described and evaluated in this EIS are based on alternatives developed within the existing and ongoing policy initiatives within the Region.
- **BPA is not unilaterally selecting a Policy Direction for the Region.** Although BPA is working, through other means, to create a unified fish and wildlife mitigation and recovery policy—the Policy Direction that BPA adopts in its Record of Decision (ROD) for this EIS will be the *BPA* Policy Direction. It will guide BPA in its current and future fish and wildlife decisions. Although this EIS is intended for BPA decisionmaking, the analysis may also be valuable for other regional entities that may adopt it as part of their own decisionmaking process.

### **S.2.1 Purpose and Need**

BPA needs a comprehensive and consistent policy to guide the implementation and funding of its fish and wildlife mitigation and recovery efforts.

BPA has an initial obligation in this EIS to fulfill its NEPA requirements for understanding the environmental consequences of its actions (funding and implementing any Policy Direction) before decisions are made and actions are taken. NEPA compliance will allow BPA to:

- avoid delays in taking effective action, and
- provide an opportunity for public involvement for interested parties.

There are also some specific purposes BPA must consider:

- **facilitating** implementation of a regional unified planning approach for fish and wildlife mitigation and recovery efforts that will improve coordination, efficiency, and consistency;

- **fulfilling** statutory, legal obligations under the Regional Act; especially BPA's obligations to protect, mitigate, and enhance fish and wildlife; provide equitable treatment for fish and wildlife as with the other purposes of the FCRPS; and provide a reliable, adequate, efficient, and economical power supply;
- **fulfilling** the Administration's Fish and Wildlife Funding Principles such that BPA meets all of its fish and wildlife obligations, once established; take into account the full range of potential fish and wildlife costs; demonstrate a high probability of Treasury repayment;<sup>4</sup> minimize rate effects on power and transmission customers; adopt rates and contracts that are easy to implement; and adopt a flexible fish and wildlife strategy;
- **fulfilling** other obligations under other applicable laws, including Federal treaty and trust responsibilities with regional tribes, the Endangered Species Act (ESA), the Clean Water Act (CWA), and the National Historic Preservation Act (NHPA); and
- **promoting** predictable and stable fish and wildlife costs and competitive rates, enhancing BPA's ability to provide funding for public benefits and remain competitive in the electric utility marketplace.

BPA will use these purposes listed as "yardsticks" to compare how well the alternative Policy Directions meet the agency's need.

### **S.2.2 Scope of this EIS**

To improve the health of fish and wildlife and to find a way to use limited funds most efficiently, many participants throughout the Region have undertaken several related and wide-ranging processes with differing scopes (e.g., policy directions, geographic areas, and particular species). Some of these processes are narrowly focused such as hatchery propagation of fish, habitat restoration and improvement, manipulation of the flow in the rivers (hydro), management of Federal lands, or harvest controls. Others are more broadly focused. For example, the Federal Caucus' Final Basinwide Salmon Recovery Strategy,<sup>5</sup> a product of nine Federal agencies known as the Federal Caucus, focuses on four areas affecting the life cycle of anadromous fish: hatcheries, harvest, habitat, and the hydrosystem to recover Columbia River Basin ESA-listed fish. Other broadly scoped processes include the Council's 2000 Columbia River Basin Fish and Wildlife Program<sup>6</sup> which addresses fish and wildlife mitigation and recovery basinwide, and the Multi-Species Framework Report,<sup>7</sup> a comprehensive approach to fish and wildlife mitigation for multiple species (not just mitigation and recovery of ESA-listed species).

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<sup>4</sup> Treasury repayment is a payment BPA makes annually to repay (1) monies BPA has borrowed from the U.S. Treasury and (2) appropriations to the Corps and Bureau for the share of capital construction allocated to the power purpose of the hydrosystem.

<sup>5</sup> Federal Caucus 1999b and 2000b. These two documents were formerly known as the "All-H Plan"; they are the draft and final versions of the same study.

<sup>6</sup> Council 2000d.

<sup>7</sup> Marcot, B.G., et al. 2002.

Figure S-1, below, compares the scope of many of these different processes. The Figure illustrates how this EIS is scoped very broadly. It covers the full breadth of the numerous other regional processes, encompassing the overall policy-level issues for mitigation and recovery efforts throughout the Region and BPA's service territory.

The Region has a rich history of public policy related to fish and wildlife resources and the social and economic well-being of the Region. This history has lead BPA, and the Region, to a point of once again reflecting back on that public policy which has guided fish and wildlife resources use.

### **S.3 REGIONAL FISH AND WILDLIFE PUBLIC POLICY**

To understand the issues and to make sound decisions on a future Policy Direction for the mitigation and recovery efforts regarding fish and wildlife populations in the Region, decisionmakers must understand three things:

- where we have been,
- where we are now, and
- what policy options are available for the future.

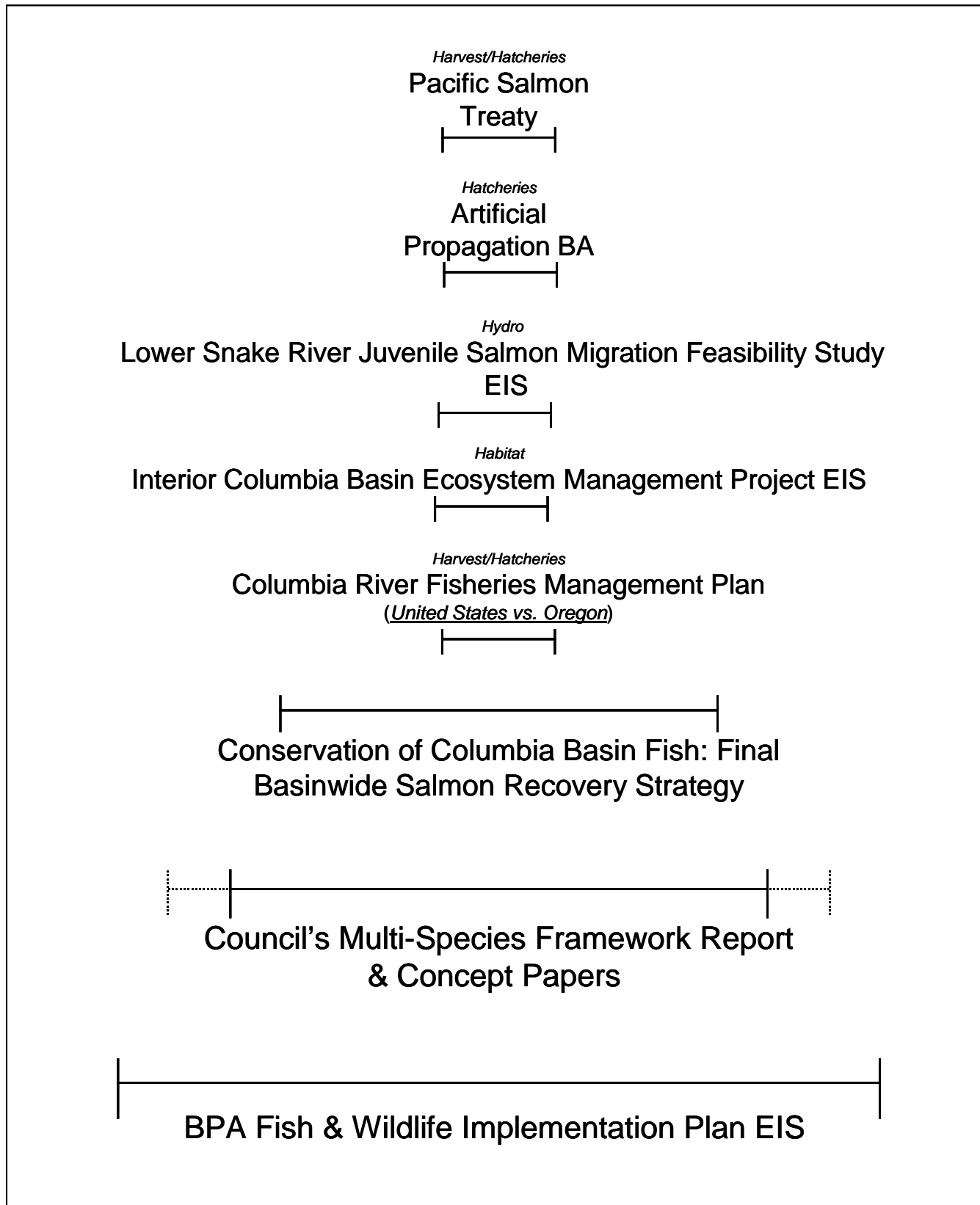
Analyzing history always presents the problem of which events to include and which ones to exclude, because there are a myriad of details to consider. In this EIS we kept focused on what has been done and what happened to the environment as a result. The history of public policy for fish and wildlife was reviewed so BPA, and the Region, could better understand and learn from past events and make the best choices for future policy.

#### **S.3.1 Historical Perspective**

Over the past two hundred years, the human environment of the Pacific Northwest has changed dramatically. Some normal variations (such as weather or ocean conditions) and natural disaster events are, of course, beyond human control. However, the vast majority of the changes, at least in number, have resulted from expressed or implied public policies. Consequently, the state of the Pacific Northwest's human environment today is largely a direct or indirect consequence of policies followed over the last two hundred years.

The evolution of fish and wildlife policy has progressed through several stages from early basic subsistence, to the emergence of commercial uses, onto a substantial period of environmental regulation, and settling into a more recent equitable treatment phase for fish and wildlife resources. The policy stages became shorter in duration and the trade-offs became more difficult to comprehensively assess. The trend is continuing as the Region faces further changes in public policy for fish and wildlife resources. As previously stated, BPA and the Region need a unified approach if they are to spend their financial resources efficiently and wisely.

Figure S-1: Examples of Breadth of Scope



### **S.3.2 Major Participants**

There are many participants in the development of a Pacific Northwest fish and wildlife policy. It is important to understand the many interests:

- **the Executive Branch (President and Executive Offices) and Legislative Branch (Congress)** (because a given Policy Direction might require change in national funding resources and legislation),
- **regional tribes** (with express legal status and cultural, spiritual, and economic interests),
- **BPA and other Federal agencies** (which have direct or indirect responsibilities for fish and wildlife recovery and mitigation, as defined by various Federal statutes and regulations),
- **the Northwest Power Planning Council** (whose members from the four Northwest States develop and recommend fish and wildlife measures for BPA to fund as mitigation for the effects of the FCRPS),
- **individual states and local governments** (which in addition to their presence on the Council above, have responsibilities to enforce laws such as the CWA, in accordance with Environmental Protection Agency (EPA) guidelines. Local governments have responsibilities to manage municipal water and waste and are involved in community-based projects such as watershed councils),
- **regional commerce** (which includes people, businesses, and organizations representing such diverse interests as recreation, commercial fisheries, industrial/manufacturing facilities, transportation, agriculture/forestry, energy/transmission facilities, and residential/commercial development, that depend on the resources of the Columbia Basin for their livelihood), and
- **regional interests** (which include the many citizens and groups with other direct or indirect interests in the impacts, costs, strategies, and specific projects that may be involved in any plan to recover fish and wildlife populations).

### **S.3.3 Key Issues**

Over the last decade, Federal agencies in the Region have developed and continue to develop a number of plans on specific fish and wildlife mitigation and recovery actions. They have also issued a series of EISs designed to evaluate those plans to support the implementation of the selected actions. These documents include the Lower Snake River Juvenile Salmon Migration Final Feasibility Report/Environmental Impact Statement (U.S. Army Corps of Engineers, February 2002), the Interior Columbia Basin Supplemental Final Environmental Impact Statement (U.S. Forest Service and Bureau of Land Management, December 2000), and the Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species within the Range of the Northern Spotted Owl (U.S. Forest Service and Bureau of Land Management, February 1994). These and other resource-related



documents have been used as resources in the preparation of this EIS, and are incorporated here by reference.<sup>8</sup>

The FWIP EIS has expanded on the issues addressed in existing environmental documentation by incorporating information from numerous recent regional processes. BPA has also worked with the public and the agencies to identify those "key issues" that are necessary to address for any comprehensive fish and wildlife mitigation and recovery plan to be successful. The key issues are listed in Table S.3-1 below.

**Table S.3-1: Key Regional Issues**

<b>Key Regional Issues</b>		
<b>1 Habitat</b>	<b>4 Hydro</b>	<b>7 Transportation</b>
1-1 Anadromous Fish	4-1 Dam Modifications and Facilities	7-1 Navigation and Barging
1-2 Resident Fish	4-2 Hydro Operations	7-2 Trucking, Railroads and Infrastructure
1-3 Introduced Species	4-3 Spill	<b>8 Agriculture</b>
1-4 Wildlife	4-4 Flow	8-1 Irrigation
1-5 Predators of Anadromous Fish	4-5 Reservoir Levels	8-2 Pesticides and Agricultural Practices
1-6 Watersheds	4-6 Water Quality	8-3 Grazing
1-7 Tributaries	4-7 Juvenile Fish Passage and Transportation	8-4 Forestry
1-8 Mainstem Columbia	4-8 Adult Fish Passage	<b>9 Commercial Harvest</b>
1-9 Reservoirs	4-9 Flood Control	<b>10 Residential and Commercial Development</b>
1-10 Estuaries and Ocean	<b>5 Power</b>	<b>11 Recreation</b>
1-11 Water Quality	5-1 Existing Generation	<b>12 Tribes</b>
<b>2 Harvest</b>	5-2 New Energy Resources	12-1 Tribal Harvest
2-1 Anadromous Fish	5-3 Transmission Reliability	12-2 Tradition, Culture, Spirituality
2-2 Resident Fish	<b>6 Industry</b>	
2-3 Wildlife	6-1 Industrial Development	
<b>3 Hatcheries</b>	6-2 Aluminum and Chemical	
3-1 Anadromous Fish	6-3 Mining	
3-2 Resident Fish	6-4 Pulp and Paper	

The key issues provide a means for sorting the hundreds of actions throughout the Region proposed by individuals, groups, organizations, and agencies to help guide the fish and

<sup>8</sup> For a complete listing, see Chapter 1 of this EIS.

wildlife mitigation and recovery effort.<sup>9</sup> These sample actions supply definition to a set of alternatives derived from regional discussions over fish and wildlife policy direction.

## **S.4 PROPOSED ACTION AND ALTERNATIVES, INCLUDING THE PREFERRED ALTERNATIVE**

This EIS examines the Status Quo ("no action" baseline), a range of five basic alternative Policy Directions, and a Preferred Alternative (PA 2002). Each Policy Direction represents a shift toward a particular focus or theme. The proposed actions that were sorted by key issue are further sorted by consistency with one of the five basic alternative Policy Direction themes. The exact actions taken under each Policy Direction, and the intensity of the actions, are not established at the policy level but are used to help the reader to better understand the Policy Directions. Specific actions consistent with the Policy Direction would be specified and analyzed in greater detail before being implemented, as appropriate (see the Decisionmaking section below).

The Policy Directions are based completely on ideas set forth in recent regional processes on fish and wildlife recovery efforts, and they encompass the range of possible actions assessed within regional processes over the last 10 years. All regional concepts have been considered, even where some may prove infeasible under current law or impractical for other reasons, or may appear to be less effective.

The range of alternatives is covered by the five basic Policy Directions as follows:

- **Natural Focus**
- **Weak Stock Focus**
- **Sustainable Use Focus**
- **Strong Stock Focus**
- **Commerce Focus**

There is also a baseline—Status Quo—against which to compare Policy Directions and any identified preferred alternative Policy Direction from within the range of the basic alternative Policy Directions.

To date, BPA has found that a comprehensive policy has not yet been developed through a regionally unified planning approach. However, an alternative policy is emerging through separately developed and implemented agency actions. This alternative Policy Direction, with consideration of how the policy is likely to evolve in the foreseeable future, is described within this EIS as PA 2002.

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<sup>9</sup> See Volume 3, Sample Implementation Actions, Research Monitoring and Evaluation, and Policy and Planning.

After completing several important steps—seeking out and considering public comment on the issues and alternatives, considering completed and ongoing regional fish and wildlife recovery processes, comparing the five Policy Direction alternatives, considering the Status Quo alternative, evaluating the likely environmental consequences, and reviewing the EIS purposes—BPA has identified the PA 2002. This policy path defines much of the Region's recent past and present situation. Using the events of 2002 to assimilate a Policy Direction, BPA has derived this PA 2002. It is mainly made up of components of two of the five basic alternative Policy Directions alternatives (Weak Stock Focus and Sustainable Use Focus alternatives) defined in this EIS, and falls within that defined continuum of potential alternatives.

There are some important assumptions about future conditions that are held in common with all Policy Directions. They are as follows:

- Internal and external pressures for population growth and urbanization will continue unless specifically changed by an alternative.
- BPA's roles in marketing Federal hydropower and funding and implementing fish and wildlife programs will continue unless changed or affected by an alternative.
- All Policy Directions seek to attain their goals at the least cost practical. This statement should not be taken to mean that the goals themselves are necessarily economical or cost-efficient.

The Status Quo, five basic alternative Policy Directions, and PA 2002 are summarized below. All are based upon concepts for fish and wildlife policy developed or proposed by some persons in the Region.

#### **Status Quo (no change from the approach present when the EIS was drafted)**

The Status Quo Alternative represents the "no action" alternative—not changing the lack of clarity for policy direction and ad-hoc approach to fish and wildlife mitigation and recovery that the Region appeared to be following before 2002. Status Quo is defined relative to existing environmental conditions. For this EIS, the Status Quo serves as the baseline against which to compare alternative Policy Directions.

**Description:** Uses human intervention to address the perceived problems facing fish and wildlife populations and their recovery, with no unified or single regional plan. Independent strategies, multiple plans, different and sometimes conflicting goals, multiple governmental actions, and unclear expectations tend to result in a complicated and confusing mixture of many policy themes.<sup>10</sup>

The Status Quo focuses on modifying *hydro* system operations and increasing *hatchery* production to recover ESA-listed stocks of anadromous fish for increased harvest. The

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<sup>10</sup> See Appendix I for a visual representation of Status Quo across the five basic Policy Direction alternatives.

BPA mitigation and recovery funding efforts over the past decade have had substantially greater funding allocated to anadromous fish compared to that for resident fish and wildlife. Status Quo recognizes the past trade-offs between fish and wildlife and human activity and economic benefits.

### **Natural Focus**

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*"Wilderness is not for us at all. We should allow it to exist out of respect for the intrinsic values of the rest of nature and particularly for the life forms dependant on wild habitats."*<sup>11</sup>

Under a unified regional planning approach, this alternative emphasizes *removing the past major human "interventions"* in the ecosystem and allowing the existing fish and wildlife to return to a natural balance without further major human intervention (*let nature heal itself*). The focus is on protecting *habitat* and controlling *hydro* operations to reestablish ecological processes. The preservation of habitat quality would be put ahead of economic activity.

As part of this alternative, the first priority is to protect areas considered pristine, especially those areas untouched by previous human development (e.g., value of "wildness," not directed at any species in particular). Second, for those ecosystems already altered by human activities, efforts would focus on minimizing further degradation and restoration would emphasize regeneration via natural processes. Third, in exceptional cases, humans might intervene to rebuild the most essential elements needed for natural functioning e.g., breaching dams).

### **Weak Stock Focus**

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*"Extinction is not an option."*<sup>12</sup>

Under a unified regional planning approach, this alternative emphasizes *human intervention to promote recovery* of weak species of fish and wildlife that are listed or proposed for listing under the Endangered Species Act or other legal protections. The focus is on actively protecting and enhancing *habitat* and controlling *hydro* operations to enhance survival of ESA-listed fish stocks and wildlife species at all lifecycle stages. Restoring quality habitat for weak stocks would be done over economic activity.

This alternative emphasizes an intensive approach to prevent the extinction of legally protected fish and wildlife populations. The priority would be on saving the weakest populations first. The ultimate goal is to "recover" species so they no longer need protection under the ESA. The ESA is the primary driver behind this Policy Direction and more emphasis would be on continued regulation.<sup>13</sup>

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<sup>11</sup> Nash, Roderick 2001, p. 388.

<sup>12</sup> State of Washington 1999.

<sup>13</sup> USDO/USFWS 1998a.

### **Sustainable Use Focus**

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*"Conservation is a state of harmony between men and land."*<sup>14</sup>

*"Conservation holds that it is about as important to see that the people in general get the benefit of our natural resources as to see that there shall be natural resources left."*<sup>15</sup>

Under a unified regional planning approach, this alternative emphasizes *human intervention as part of the goal to rebuild and maintain* sustainable fish and wildlife populations to promote expanded harvest and recreation opportunities. (*Sustainable* is defined as the continued use of a resource at a stable rate over the long term.) The focus is on increasing *hatchery* production, modifying *hydro* operations, and enhancing and managing *habitat* to increase harvest opportunities. Available resources are used to maintain and expand harvest opportunities.

This Policy Direction emphasizes the expansion of opportunities to harvest fish and wildlife resources. Humans have rights to use natural resources to meet sustenance, spiritual, and economic needs, but they also have an obligation to ensure that those resources are self-sustaining (e.g., intervene at all stages in the life cycles of fish and wildlife to help those populations rebuild and maintain themselves in perpetuity).<sup>16</sup>

### **Strong Stock Focus**

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*"It is time to apply 'triage' techniques, i.e., face up to what are likely irreversible declines in some runs in order to direct resources to those runs where the odds for long-term survival are better with adequate help."*<sup>17</sup>

Under a unified regional planning approach, this alternative emphasizes *human intervention to avoid declines* of strong fish stocks and strong wildlife populations preventing weakened populations that require legal protection. The focus is on maintaining *habitat* to sustain strong fish stocks and strong wildlife populations. Maintaining habitat and restricting further degradation would be put over economic activity and new development.

The focus here is on maintaining healthy fish stocks and wildlife populations within a stable ecosystem. Priorities would be based on the effectiveness of stock/population maintenance (as opposed to recovery) and costly efforts to recover populations that are so depleted that they likely will not be recovered would be abandoned (e.g., limited resources would go to the fish and wildlife that have the best chance of maintenance and recovery).<sup>18</sup>

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<sup>14</sup> Leopold, Aldo 1949, p. 207.

<sup>15</sup> Pinchot, Gifford 1910, p. 81.

<sup>16</sup> CRITFC 1996.

<sup>17</sup> Thomas, Jack Ward, Dr. 2000, p. 5.

<sup>18</sup> Thomas, Jack Ward, Dr. 2000, p. 4. See generally Michael, John H. 1999.

### **Commerce Focus**

*"Endangered species has divided the country on an issue that seemingly pits growth (and jobs) vs. the environment. This does not have to be the case. Protecting endangered species can be integrated with economic growth, turning a win-lose or lose-lose situation into one where everyone benefits. This can be accomplished by using economic incentives to promote conservation.... Although the costs incurred by these incentives may be high in some cases, they will be highly cost-effective. The current 'at any cost' strategy is only marginally effective, and can actually harm species in some circumstances."*<sup>19</sup>

Under a unified regional planning approach, this alternative emphasizes *human intervention to enhance the economic value* of river uses and allocates a portion of the revenues to fund fish and wildlife mitigation. The focus is on increasing *hatchery* production and improving *hydro* operations to support the commercial values of the river. Increased revenues would be put toward funding fish and wildlife mitigation programs that do not directly affect economic efficiency.

This Policy Direction emphasizes economic efficiency in choosing a recovery strategy. Money is a scarce resource and a major component in any recovery plan, and should be spent only when costs are justified by benefits. This Direction decreases government regulation and emphasizes voluntary actions, financial incentives, and market mechanisms to bring about desired results that can best meet the goals of fish and wildlife conservation, while still fulfilling their economic needs (e.g., we have to be left standing if we are going to support a unified plan).<sup>20,21</sup>

### **BPA Preferred Alternative (PA 2002)**

*"Our goal is to arrive at a "unified plan"—a set of common understandings and actions that enjoy a wide base of regional support and commitment. The Action Agencies believe that there is much common ground between the 2002-2006 5-Year Plan and the various regional recommendations and programs for salmon recovery, ....*

*"Recovery must provide for immediate, emergency needs of the fish, but also commitment for the long-term. Recovery must operate across multiple jurisdictions—five states, two nations, and numerous Indian tribes. Recovery must meld the needs of the anadromous and resident fish, listed and non-listed fish, and hatchery and wild fish. Through all of these challenges, recovery must deal with human actions, yet strive to restore some semblance of the natural conditions and functions that support wild fish." (Federal Action Agencies, 2001)<sup>22</sup>*

*"It is the federal government's role to administer the Endangered Species Act and to uphold tribal trust responsibilities. But the states also have an important role and responsibilities, as do other regional entities. Agreement on a regional approach,*

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<sup>19</sup> Schaerer, Brett 1996, p.1.

<sup>20</sup> Smith, Craig 1998.

<sup>21</sup> PNWA 1996; Schaerer, Brett 1996; PNWA 2000.

<sup>22</sup> USDOI/Bureau, Corps, and BPA 2001a, p.3.

*consisting of specific federal, state and regional plans that protect both salmon and our communities, should be reached and accepted by federal and state officials in consultation with tribal leaders...." (Governors Recommendations, July 2000)<sup>23</sup>*

*"Under the Northwest Power Act, the Council's fish and wildlife program is not intended to address all fish and wildlife problems in the basin from all sources. But the Council adopted the vision, objectives, strategies and scientific foundation with the belief that they will complement and help support other fish and wildlife recovery actions in the region." (Council's Fish and Wildlife Program, 2000)<sup>24</sup>*

*"There are gaps and unavoidable uncertainties associated with the science. Therefore, the Strategy calls for a comprehensive research monitoring and evaluation program to reduce those uncertainties that are critical to future decisions regarding salmon and steelhead recovery, while providing information for needed adjustments to future strategies." (Federal Caucus, 2001)<sup>25</sup>*

*"The Tribal vision for the future of the Columbia river Basin is one in which people return to a more balanced and harmonious relationship with the environment." (CRITFC, 1999)<sup>26</sup>*

The focus of the PA 2002 is to use a unified planning approach to protect weak stocks of fish and achieve biological performance standards, as set forth in the BiOps, while sustaining overall populations of fish and wildlife for their economic and cultural value. PA 2002 is essentially a blend of the *Weak Stock Focus* and *Sustainable Use Focus* Alternative Policy Directions.<sup>27</sup> As under both Alternatives, the unified regional planning approach will be implemented to the greatest degree possible.

The principal guidance for this Policy Direction comes from the Federal Caucus' Basinwide Strategy, the 5-year implementation planning and progress reporting efforts of the three Federal Action Agencies (Corps, Bureau, and BPA) for the FCRPS, the Council's 2000 Fish and Wildlife Program, the Governors' Recommendations, the Tribal Vision, and the Corps' 2002 Record of Decision on the Lower Snake River Feasibility Study. Where Key Issues were not specifically addressed in the above referenced documents, BPA was guided by the pertinent parts of the overall themes of the Weak Stock Focus and Sustainable Use Focus Policy Directions, other regional fish and wildlife processes, and public input to determine the remaining aspects of the PA 2002.

The PA 2002 focuses on enhancing fish and wildlife *habitat*, modifying *hydro* operation and structures, and reforming *hatcheries* to both increase listed stock populations, and provide harvest opportunities in the long-term. It gives priority to improving water quality and habitat for ESA-listed stocks of fish over economic activity, stopping short of breaching dams. It emphasizes human management, in a least-cost manner, to recover

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<sup>23</sup> Governors, Pacific Northwest States 2000, p. 17

<sup>24</sup> Council 2000d, Introduction section, p. 10.

<sup>25</sup> Federal Caucus 2000b, p. 2.

<sup>26</sup> CRITFC 1999, p. 2.

<sup>27</sup> The dam breaching aspects under the Weak Stock Focus alternative are not part of the PA 2002. See Corps 2002c.

listed species and build sustainable populations of fish and wildlife, while recognizing that ultimately the fate of the listed species may now be determined by weather and ocean conditions rather than human action.

## **S.5 COMPARING THE POLICY DIRECTIONS**

The BPA Administrator must make fully informed decisions about BPA's funding and implementation of its fish and wildlife obligations to support the Region's mitigation and recovery efforts. Understanding the environmental consequences of implementing the Policy Direction that best reflects the Region's position is paramount. An important objective of this EIS is to provide that information. BPA has evaluated each of the five basic Policy Direction alternatives against the Status Quo. The PA 2002, which is a blend of the Weak Stock Focus and Sustainable Use Focus alternatives, has also been compared against the Status Quo. By using this methodology, the BPA Administrator, as well as others in the Region, can evaluate the environmental consequences of current Policy Direction proposals and future proposals.<sup>28</sup> The structure of the analysis provides for an assessment of the cumulative effects of implementing a Policy Direction.

Table S.5-1, provides a summary of **Natural Environment** and **Social and Economic Environment**<sup>29</sup> consequences of the Policy Directions, and PA 2002, based on the analysis in Chapter 5. The table illustrates the anticipated long-term environmental effects of the alternative Policy Directions compared to Status Quo. This summary highlights the areas where the effects are clearly different, but also shows where they may be similar, offering the opportunity to quickly see the possible "trade-offs." Effects are shown by shading to indicate whether a given Policy Direction would tend to have effects that are the same as, better than, or worse than Status Quo.<sup>30</sup> By assembling and condensing the information in this manner, decisionmakers can more readily compare the likely environmental consequences. The effects shown for each Policy Direction are without mitigation. Chapter 5 discusses potential mitigation measures.

No judgment is made about whether the Status Quo, or any other Policy Direction, is *good* or *bad*. This EIS is not intended to define the Region's values. Some may believe that economic prosperity should be the overriding value; others may believe that maintaining a natural environment should be the appropriate value. Still others may believe that some form of balance between economic prosperity and preservation of the natural environment should be the "correct" value for the Region. These disparate viewpoints are represented within the range of alternatives.

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<sup>28</sup> See Chapters 3 and 5, and Appendix I for information on how to create and evaluate different Policy Direction alternatives.

<sup>29</sup> For information about the existing environmental conditions in these effect areas, please see Chapter 2. For a listing of those actions that are proposed for each Policy Direction, as well as the current implementation actions now underway, please see Section 3A. For a more detailed discussion of environmental consequences, including the analysis behind Table S.5-1, please see Chapter 5.

<sup>30</sup> Effect categories are condensed from the expanded list of categories described in Section 5.3 of this EIS. Condensing allows the reader to more easily see the major trends in effects. Where categories are condensed, the summaries represent the central tendency of the more detailed results.



**Table S.5-1: Comparison of the Alternatives Including the Preferred Alternative (PA 2002)\***

Effect Area	Status Quo*	Natural Focus	Weak Stocks	PA 2002	Sustain-able Use	Strong Stocks	Com. Focus
<b>NATURAL ENVIRONMENT</b>							
<b>Air Quality</b>							
<b>Land Habitat</b>							
Upland							
Riparian/Wetland							
<b>Water Habitat</b>							
Nitrogen Supersaturation							
Non-Thermal Pollution							
Sedimentation**							
Temperature/Dissolved Oxygen							
Instream Water Quantity							
Amount Stream/River Habitat							
Reservoir Habitat							
<b>Fish and Wildlife</b>							
Naturally-spawning Native Anadromous Fish							
Hatchery-produced Native Anadromous Fish							
Native Resident Fish							
Native Wildlife							
Non-Native Species***							
<b>SOCIAL AND ECONOMIC ENVIRONMENTS</b>							
<b>Commerce</b>							
<b>Recreation</b>							
<b>Economic Development</b>							
<b>Funding Costs</b>							
<b>Tribes</b>							
Fish Harvest							
Health, Spirituality, and Tradition							
<b>Cultural/Historic Resources</b>							
<b>Aesthetics</b>							

\* Status Quo = Baseline conditions. For more information on existing conditions, please see Section 5.1.

\*\* The sedimentation evaluation is based on long-term effects. It should be noted that the short-term effects under Natural Focus and Weak Stock from dam breaching would be much worse than those conditions under Status Quo.

\*\*\* Under this analysis fewer non-native species is considered "better". For a complete discussion, see Chapter 5.



Another important objective of this EIS is to show how a Policy Direction will affect BPA's ability to fulfill the stated purposes. The Administrator must consider these environmental consequences together with the purposes in this EIS and other relevant factors (including public input) to make an informed decision on a comprehensive and consistent policy to guide BPA's implementation and funding of fish and wildlife mitigation and recovery actions.

The many ethical, political, legal, and scientific implications surrounding fish and wildlife management issues make them difficult to discuss without becoming mired in the pro and con of various policy choices. While science can help evaluate the consequences of different policy options, resource management issues are ultimately issues of public choice. This frames the dilemma that now faces decisionmakers, including BPA, that are involved with fish and wildlife policy—the trade-offs have to be considered.

## **S.6 DECISIONMAKING**

There is no one "best" Policy Direction. "Best" is a value judgment, ultimately a matter of personal preference. However, one may evaluate whether certain actions are more or less likely to bring about certain results. In making a decision, BPA must consider:

- What fish and wildlife Policy Direction the Region appears to be following.
- How to fund and mitigate the environmental consequences, if necessary, of the likely actions under that Direction.
- How best to implement the Direction being followed and meet BPA Purposes.

In this EIS, a wide range of the environmental consequences of alternative Policy Directions were evaluated. The evaluation included trade-offs among resources, as well as ways to mitigate effects. The public and decisionmakers were offered an opportunity to assess, participate in, and influence the selection of a regional Policy Direction alternative(s) for fish and wildlife mitigation and recovery efforts. Because BPA's EIS is undertaken as a complement to other regional processes, it will also provide a springboard for BPA to implement specific actions consistent with the selected Policy Direction with minimal or no further delay and without the need to constantly revisit past decisions.

After publication of this Final EIS, BPA will prepare a Record of Decision (ROD) that documents and explains the basis for the selected Policy Direction. The ROD will also identify the alternative Policy Directions considered to be environmentally preferable. BPA may then "tier" decisions about the implementation of actions consistent with the same Policy Direction.<sup>31</sup>

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<sup>31</sup> See Chapter 1.

As part of this decision process, this EIS will support actions that BPA determines are necessary to comply with its responsibilities, including the following:

- funding and implementing fish and wildlife mitigation and recovery efforts that support the selected Alternative Policy Direction;
- integrating those efforts into a unified plan;
- short- or long-term FCRPS recommendations in the NMFS and USFWS BiOps;
- funding of the Council's Fish and Wildlife Program,
- capital improvements at FCRPS projects; and
- funding of cultural resource mitigation.

## **S.7 FUTURE CHANGES IN POLICY DIRECTION**

Once the BPA Administrator, or any other decisionmaker, chooses a Policy Direction, it will need to be implemented. Individuals, groups, or agencies will take appropriate implementing actions, such as those provided as Sample Implementation Actions in this EIS.<sup>32</sup> Many natural, economic, and social factors will strongly influence the ultimate success of these actions. If we have chosen well, fish and wildlife mitigation and recovery will improve at an acceptable social pace and economic cost.

Even if we have chosen as well as we can, we may find, in monitoring results, that we need to change our specific actions, or the overall Policy Direction itself. Successful mitigation and recovery may mean that the Region needs to modify its management of the resources differently. On the other hand, mitigation and recovery may not be as successful or as speedy as we wish, or the consequences for other resources may prove unacceptable. Research and development may result in new types of actions, or science may determine that other types of actions might better foster fish and wildlife mitigation and recovery. Federal or state officials and the actions they advocate may change, or the preferences of society may change. Regardless of the reason, eventually, the chosen Policy Direction will likely need to be modified. This EIS is designed to accommodate such need.

This is a forward-looking policy-level EIS. As such, BPA has taken into account the possibilities of factors outside human control such as weather, ocean conditions, species-specific disease, and social or economic crises that can change the predicted effect of a particular course of action. New decisionmakers, and the decisionmaking process itself, may also affect implementation.<sup>33</sup> If any of these potential events or circumstances occur, it is particularly important to understand how the interaction of public process, political intervention, and judicial review may affect implementation of the fish and wildlife mitigation and recovery plans.

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<sup>32</sup> See Volume 3.

<sup>33</sup> See Chapter 4.

We know that change will occur-in the natural, social and economic environments, as well as in public policy. This EIS is designed to facilitate BPA's ability to quickly accommodate such changes. These tools help make it possible to modify, extend, or create a Policy Direction:

- Response strategies – After a decision on a particular Policy Direction, it is likely that economic, political, or environmental changes will require corrective measures to maintain the selected course. Response strategies allow immediate corrections or improvements *without changing the overall Policy Direction* in effect. They represent management options within the agency's jurisdiction that have been contemplated, implicitly or explicitly, and evaluated in advance, allowing for immediate implementation. Response strategies are grouped into three categories: Management and Operating Agency, BPA Funding, and Regional.
- Reserve options – Fish and wildlife policy in the Columbia River Basin has changed over time, and is expected to continue to evolve. The specific actions being considered today are different from those that were considered 10 or 20 years ago. Developments in science and technology, past successes and failures, different people and priorities, and changes in focus from salmon to multi-species are just a few examples. Future developments may necessitate changes beyond the specific actions currently considered “reasonable” under the Policy Directions. We have identified "Reserve Options" to ensure that those future decisionmakers have the needed flexibility to make those changes. Public process would be conducted before such options were decided and implemented.
- Mix and match approach – Decisionmakers could revisit a chosen Policy Direction after it has been implemented and make changes. If a particular action or set of actions proved to be very successful, decisionmakers may want the flexibility to implement such actions on a broader scale. Conversely, if a particular action or set of actions were not producing the desired result, decisionmakers could substitute a more aggressive action or opt for a different strategy. This EIS is designed to be broad enough to encompass any potential Policy Directions under consideration throughout the Region. By mixing and matching components of the different Policy Directions, decisionmakers could create a new Policy Direction. Because the mix-and-match approach is used to *create a new Policy Direction*, regional discussion and public process would likely be necessary.

All three of these tools are designed to provide full disclosure of related information and to further the public's understanding of the decisionmaking process, now and in the future.